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File: PGPB

Jun 10, 2004

PGPUB-DOCUMENT-NUMBER: 20040111410

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040111410 A1

TITLE: Information reservoir

PUBLICATION-DATE: June 10, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Burgoon, David Alford	Columbus	OH	US	
Davis, Mark D.	Sunbury	OH	US	
Dorow, Kevin E.	Kennewick	WA	US	
Hitt, Todd A.	Worthington	OH	US	
Mooney, Douglas David	Columbus	OH	US	
Rust, Steven Wayne	Worthington	OH	US	
Sinnott, Loraine T.	Columbus	OH	US	

US-CL-CURRENT: 707/4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☐ 2. Document ID: US 20020184211 A1

L5: Entry 2 of 4

File: PGPB

Dec 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020184211

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020184211 A1

TITLE: System and method for organizing data

PUBLICATION-DATE: December 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gruenwald, Bjorn J.	Newtown	PA	US	

US-CL-CURRENT: 707/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☐ 3. Document ID: US 6108670 A

L5: Entry 3 of 4

File: USPT

Aug 22, 2000

US-PAT-NO: 6108670

DOCUMENT-IDENTIFIER: US 6108670 A

TITLE: Checking and enabling database updates with a dynamic, multi-modal, rule based system

DATE-ISSUED: August 22, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weida; Robert Anthony	New York	NY		
Greef; Arthur Reginald	Seattle	WA		
Castelucci; Frank Vincent	Amawalk	NY		
Maguire; Thomas Robert	Brewster	NY		
Perez; Carlos Bernadino Elezar	New York	NY		
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## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
International Business Machines Corporation	Armonk	NY			02

APPL-NO: 09/ 223160 [PALM]

DATE FILED: December 30, 1998

## PARENT-CASE:

RELATED PATENT APPLICATIONS 1. This is a continuation-in-part of U.S. patent application Ser. No. 08/977,018 filed on Nov. 27, 1997 and entitled "Checking and Enabling Database Updates with a Dynamic Multi-Modal, Rule Based System" U.S. Pat. No. 6,014,657. The contents of the above identified application are hereby incorporated by reference. 2. This is a continuation-in-part of U.S. patent application Ser. No. 08/976,652 filed on Nov. 24, 1997 and entitled "Method and Apparatus for Maintaining Multiple Inheritance Concept Hierarchies", U.S. Pat. No. 5,953,726. The contents of the above identified application are hereby incorporated by reference. 3. This is a continuation-in-part of U.S. patent application Ser. No. 08/977,092 filed on Nov. 24, 1997 and entitled "A Method and Apparatus for Navigating Multiple Inheritance Concept Hierarchies", pending. The contents of the above identified application are hereby incorporated herein by reference. 4. U.S. patent application Ser. No. 08/472,414 filed on Jun. 7, 1995 and entitled "Method and Apparatus for Representing Knowledge About Entities", abandoned. The contents of the above identified application are hereby incorporated herein by reference. 5. U.S. patent application Ser. No. 08/688,350 filed on Jul. 30, 1996 and entitled "Enhanced Tree Control System for Navigating Lattices Data Structure & Displaying Configurable Lattice Node Labels", pending. The contents of the above identified application are hereby incorporated herein by reference. 6. U.S. patent application Ser. No. 08/725,961 filed on Oct. 7, 1997 and entitled "Enhancing Feature Based Search Through Feature Relevance Reasoning", U.S. Pat. No. 5,897,639. The contents of the above identified application are hereby incorporated herein by reference. 7. U.S. patent application Ser. No. 08/978,712 filed on Nov. 26, 1997 and entitled "Method for Migration of Tabular Information into a Frame Based Hierarchical Scheme with Inheritance", pending. The contents of the above identified application are hereby incorporated by reference.

INT-CL: [07] G06 F 17/30

US-CL-ISSUED: 707/203; 707/200, 707/1, 707/2, 707/4, 709/302

US-CL-CURRENT: 707/203; 707/1, 707/2, 707/200, 707/4, 719/328

FIELD-OF-SEARCH: 707/200, 707/1, 707/2, 707/203, 707/4, 709/302

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4809170	February 1989	Leblang et al.	395/703
<u>5584026</u>	December 1996	Knudsen et al.	707/1
<u>5586330</u>	December 1996	Knudsen et al.	395/705
<u>5594899</u>	January 1997	Knudsen et al.	707/2
<u>5596752</u>	January 1997	Knudsen et al.	395/701
<u>5649200</u>	July 1997	Leblang et al.	395/703
<u>5682535</u>	October 1997	Knudsen et al.	395/701
<u>5862325</u>	January 1999	Reed et al.	709/201
<u>5897639</u>	April 1999	Greef et al.	707/103
<u>5918210</u>	June 1999	Rosenthal et al.	705/7

ART-UNIT: 277

PRIMARY-EXAMINER: Breene; John E.

ASSISTANT-EXAMINER: Lewis; Cheryl

ATTY-AGENT-FIRM: Meyers; Steven J.

## ABSTRACT:

Software modules which are not part of a database systems source code is provided for interactively maintaining the semantics of concept hierarchies when concept properties and concept interrelationships are modified. These separate modules include command and rules modules. Each of the commands in the command module are linked to the appropriate rules in the rules module. The rules module is bifurcated into a check section and an action section. If the command does not violate any applicable rule in the rules section, the action section implements the command. If the command violates one or more applicable rules, the action section suggests alternate action. If no suitable action can be found, the action section implements reverse commands to return the database to its unaltered state.

19 Claims, 12 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Drawings	Claims	COMC	Draw Desc	Image
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☐ 4. Document ID: US 5970490 A

L5: Entry 4 of 4

File: USPT

Oct 19, 1999

US-PAT-NO: 5970490

DOCUMENT-IDENTIFIER: US 5970490 A

TITLE: Integration platform for heterogeneous databases

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=ev44e9.6&ref=5&dbname=PGPB,USPT,USOC,EPAB,JPA...> 2/22/05

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morgenstern; Matthew	Ithaca	NY		

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Xerox Corporation	Stamford	CT			02

APPL-NO: 08/ 963853 [PALM]

DATE FILED: November 4, 1997

## PARENT-CASE:

This application claims priority of Provisional U.S Pat. Application No. 60/030,215, filed Nov. 5, 1996 the subject matter of this application is fully incorporated herein.

INT-CL: [06] G06 F 17/30

US-CL-ISSUED: 707/10; 707/103, 707/104

US-CL-CURRENT: 707/10; 707/104.1

FIELD-OF-SEARCH: 707/10, 707/103, 707/104

## PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>5560005</u>	September 1996	Hoover et al.	707/10
<u>5627979</u>	May 1997	Chang et al.	345/335
<u>5724575</u>	March 1998	Hoover et al.	707/10
<u>5758351</u>	May 1998	Gibson et al.	707/104
<u>5761684</u>	June 1998	Gibson	707/515
<u>5809507</u>	September 1998	Cavanaugh, III	707/103
<u>5815415</u>	September 1998	Bentley et al.	364/578

## OTHER PUBLICATIONS

Common Object Request Broker Architecture,  
[http://www.sei.cmu.edu/activities/str/descriptions/corba.sub.- body.html](http://www.sei.cmu.edu/activities/str/descriptions/corba.sub.-body.html), Jan. 10, 1997.  
Object Request Broker, [http://www.sei.cmu.edu/activities/str/descriptions/orb.sub.- body.html](http://www.sei.cmu.edu/activities/str/descriptions/orb.sub.-body.html).  
Jun. 25, 1997.

ART-UNIT: 277

PRIMARY-EXAMINER: Amsbury; Wayne

ASSISTANT-EXAMINER: Alam; Shahid

ATTY-AGENT-FIRM: Cox; Diana M.

## ABSTRACT:

A method for processing heterogeneous data including high level specifications to drive program generation of information mediators, inclusion of structured file formats (also referred to as data interface languages) in a uniform manner with heterogeneous database schema, development of a uniform data description language across a wide range of data schemas and structured formats, and use of annotations to separate out from such specifications the heterogeneity and

<http://westbrs:9000/bin/gate.exe?f=TOC&state=ev44e9.6&ref=5&dbname=PGPB,USPT,USOC,EPAB,JPA...> 2/22/05

differences that heretofore have led to costly special purpose interfaces with emphasis on self-description of information mediators and other software modules.

18 Claims, 5 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Pub. Number	Claims	KWIC	Draw. Desc	Image
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Term	Documents
PREDECESSORS\$	0
PREDECESSOR	8246
PREDECESSORACTIVITYID	5
PREDECESSORAND	1
PREDECESSORINDEXLIST	1
"PREDECESSORINDEXLIST.ADDE"	1
"PREDECESSORINDEXLIST.ADDELEMENT"	1
"PREDECESSORINDEXLIST.REMOVEALLEL"	1
"PREDECESSORINDEXLIST.REMOVEALLELEMENT"	1
"PREDECESSORINDEXLIST.REMOVEALLELEMENTS"	1
PREDECESSOROF	1
(L4 AND PREDECESSORS\$ ).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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File: USPT

Aug 22, 2000

DOCUMENT-IDENTIFIER: US 6108670 A

TITLE: Checking and enabling database updates with a dynamic, multi-modal, rule based system

Detailed Description Text (17):

An entity: is any constituent of a database. In a relational database, the entities include tables, columns, and rows. In a database, they include objects such as concepts and the concept's attributes. As shown in FIGS. 1 to 3, a hierarchial database intended for representation of computer systems would have concepts representing the computer systems and their components such as disk drives and printers.

Detailed Description Text (31):

As pointed out above, there are multiple modes of operation available, including either a "loose mode" (not related to loose coupling) or "strict mode", depending on whether one desires lenient or rigorous enforcement of prerequisites for commands. In strict mode, the rule checks associated with a particular command may have more stringent conditions and there may be additional rule checks associated with a command. In the same vein, the set of rule actions associated with a rule check may vary according to mode. For example, suppose a command to delete a certain concept is attempted. In loose mode, rule actions may take the liberty of deleting other concepts as required to satisfy the preconditions of the delete concept command. In strict mode, the command may just be disallowed. Note that in general, there is no limit on the number of modes or the manner in which modes are related. For example, modes may be organized hierarchically, such that each mode builds upon its predecessors by incorporating all of their rule checks and actions, as well as adding additional rule checks and actions of the additional mode. Also note that modes need not be identified with levels of semantic checking at all. As a further example, modes could be based on user expertise. In a simple approach, there could be a sophisticated user mode and a novice user mode, among others. Going further, user expertise could be gauged on a command-by-command basis via adaptive models as in IBM's COACH system.

Detailed Description Text (35):

2. Delete target is a single intermediate concept. The user wishes to remove a concept from the hierarchy including any children inheriting from it. This action deletes all constraints, then local property declarations in all descendants of a concept, deletes the descendants and finally does the same for the concept itself. Also, any properties in the hierarchy that describe a relationship to the target or any of its children are deleted. This case is basically deleting a branch or branches of the hierarchy.

Detailed Description Text (38):

1. Delete a property declaration including all its constraints in descendants. This action deletes all the property constraints in a concept and any of its descendants. Then the property declaration itself is deleted.

Detailed Description Text (41):

4. Demote a property declaration into a descendent concept keeping all constraints. This feature allows the user to take an existing property declared in a concept and change the owner of the declaration to one or more of its descendants down the hierarchy while preserving any existing constraints down the hierarchy. Any constraints that no longer have access to the property declaration are deleted.

Detailed Description Text (43):

6. Promote a property across all siblings into a common ancestor keeping all constraints. This feature allows the user to take an existing property declared in a set of sibling concepts and change the owner of the declaration to a common ancestor up the hierarchy while preserving any

existing constraints that may exist in the sibling concepts and their descendants. This is a macro operation on the micro operation described in 2.

Detailed Description Text (52):

Above we have described an embodiment of the invention. Modifications of that embodiment will be obvious to those skilled in the art. For instance, while the invention is described in terms of a particular hierarchial database structure, the invention is applicable to other types of databases both hierarchial and non-hierarchial. Therefore it is understood that the invention is not limited to the described embodiment but also covers embodiments within the spirit and scope of the appended claims.

Current US Original Classification (1):

707/203

Current US Cross Reference Classification (1):

707/1

Current US Cross Reference Classification (2):

707/2

Current US Cross Reference Classification (3):

707/200

Current US Cross Reference Classification (4):

707/4

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File: USPT

Oct 19, 1999

DOCUMENT-IDENTIFIER: US 5970490 A

TITLE: Integration platform for heterogeneous databases

Detailed Description Text (239):

The data access and parsing process begins with the top or maximal node of the Logical Structure Diagram--if the LSD is a tree, this is the natural root; if the LSD is a graph, then this is a designated node such that all other nodes of the LSD are reachable as descendants of this node.

Detailed Description Text (243):

Thus the execution of the parser controller nodes provides the postorder traversal of the tree down to the level of uniform regions. Then the associated parser for the particular type of uniform region is invoked. It traverses the nodes of the uniform region, and constructs a corresponding instance subtree/subgraph. The uniform region parsers typically are specialized, and interpret the LSD schema tree relative to the specific annotations of that region. The nodes and edges may be treated differently in different regions, and even different edges and nodes within a region may have different meanings based upon the annotations. In contrast, each parser controller node treats its immediate descendants uniformly, and this applies recursively downward until a uniform region or terminal node is encountered.

Detailed Description Text (366):

It is tempting to refer to this logical representation as the 'internal' representation, but in fact this single logical representation could have its physical storage implementation in a relational database, or an object-database, or in a hierarchical or network database architecture just as easily. A relational storage implementation has been chosen because of its accessibility through the increasingly popular JDBC application programming interface.

Detailed Description Text (371):

For tree structured (and of course flat) data, this grammar-like representation for substructure is quite appropriate. For full graph-structured data, such as may occur in object-models and in the network data model, a node may have multiple predecessors--that is, a node may participate in multiple aggregations or collections. If a copy of the node is not sufficient because the shared aspect must be captured, a cross-reference of the form #node is used to create the multiple references to the common node--this is analogous to the use of #tag references in HTML. So for example, if both B and D are to represent the same identical structure, to write:

Current US Original Classification (1):

707/10

Current US Cross Reference Classification (1):

707/104.1

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